

Claims

1. A stapling apparatus comprising:
 - a feeding roller in contact with a peripheral face of a rolled staple composed of a large number of straight staples linearly coupled to form a roll shape; and
 - a driving motor that drives the feeding roller, wherein the feeding roller rotates the rolled staple in a pulling-out direction so that a tip of the rolled staple is supplied to a staple supplying path.
2. The stapling apparatus according to claim 1, wherein the feeding roller comprises a plurality of feeding teeth formed on a peripheral face of the feeding roller and facing between adjacent staples of the rolled staple.
3. A stapling apparatus comprising:
 - a cartridge in which a rolled staple composed of a larger number of straight staples linearly coupled on a bonding sheet and wound in a roll shape so that the bonding sheet is located outside, and a tip of the staples of the rolled staple is guided in a state curved toward a side opposite to a roll-winding direction; and
 - a feeding claw swingably attached to the cartridge and engaged with a curved portion of the rolled staple to guide the staples in a pulling-out direction.

4. The stapling apparatus according to claim 3, wherein the feeding claw is disengaged from the rolled staple when the tip of the rolled staple is manually pulled out.

5. A stapling apparatus comprising:

a driving motor rotatable in a normal and a reverse direction;

a gear unit composed of a plurality of gears that transmits a driving power of the driving motor;

a switching gear that is located on a way of the gear unit and switches a power driving path between two directions;

a first driving system that executes stapling by normal rotation driving of the driving motor when the switching gear is engaged with one power transmission system; and

a second driving system that executes an operation other than the stapling by reverse driving of the driving motor when the switching gear is engaged with the other power transmission system.

6. The stapling apparatus according to claim 5, further comprising:

a reference position detecting unit attached to an end of the first driving system, wherein

only when the reference position detecting unit detects

a reference position, the reverse driving of the driving motor is continued.

7. The stapling apparatus according to claim 6, wherein one driving cycle of the first driving system is synchronous with a detecting timing of the reference position detecting unit;

if the reference position detecting unit does not detect the reference position as a result that inconvenience occurs during the one driving cycle of the first driving system, the driving cycle of the first driving system is corrected so that when the reference position detecting unit detects the reference position, the driving motor is driven in a reverse direction.

8. The stapling apparatus according to claim 5, wherein driving torque is variable between during normal rotation and during reverse rotation of the driving motor.

9. The stapling apparatus according to claim 8, further comprising:

a detecting means for correcting a driving voltage value during the normal rotation and reverse rotation on the basis of two kinds of reference voltages for the normal rotation and reverse rotation of the driving motor.

10. The stapling apparatus according to claim 8, further comprising:

a high voltage supplying unit for the normal rotation of the driving motor;

a low voltage supplying unit for the reverse rotation of the driving motor; and

a selective switch for switching the supplying path according to the normal/reverse rotation of the driving motor.

11. The stapling apparatus according to claim 8, wherein the driving voltage of the driving motor is switched by pulse width modulation.

12. A stapling apparatus comprising:

an attachment area formed in a stapler body into which a cartridge is intruded;

an engagement piece attached to the cartridge;

a locking piece formed in the attachment area and engageable with the engagement piece;

a knob attached to the cartridge and to be grasped in attaching or detaching; and

an operating lever attached to the cartridge and to be employed to cancel engagement between the engagement piece and the locking piece,

wherein the knob and the operating lever are

simultaneously grasped to cancel the engagement.

13. The stapling apparatus according to claim 12, further comprising:

an operating link rotatably attached to an intermediate portion of the operating lever; and

an engagement die rotatably attached to the tip of the operating link so that it is engaged with the locking piece when the operating lever is released.